



MEZINÁRODNÍ TESTOVÁNÍ DRŮBEŽE  
státní podnik, ÚSTRAŠICE

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**BROILER FEEDING TEST No. 1229**

**XXXXXX**

**31. 3. 2022-2. 5. 2022**

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Ústrašice, May 2022

# 1 Basic tests information

## 1.1 The basic dates

setting in the hatchery: 9 March 2022  
beginning of test: 31 March 2022  
end of the test: 2 May 2022

## 1.2 Location of the test

Mezinárodní testování drůbeže, s.p. Ústrašice, Czech Republic

# 2 Material and methods

## 2.1 Material

There were 2 different breeds in this test. Each sample consisted of 1260 hatching eggs of genotype xxxxx. 720 broilers were placed into 6 pens – 120 broilers in each pen. The parent flock is 50 weeks old at the time of hatching eggs collection.

## 2.2 Housing system

Pullets were kept in windowless house with full control of the environment. They were kept in deep litter system. Manually filled tube feeders and nipple automatic drinkers were used.

## 2.3 Lighting programme

Pullets were kept in windowless house. All the birds were submitted to the following lighting programme.

Age	Hours of light	Hours of darkness
Day 1 – 7	23	1
Day 8 – 29	18	6
Day 30 – 32	23	1

## 2.4 Stocking density

14,7 broilers per square meter

## 2.5 Feeding

Feed was produced in xxxxx.

Day 1 – 10 Starter (BR1)  
Day 11 – 21 Grower (BR2-A)  
Day 22 – 28 Grower (BR2-B)  
Day 29 – 32 Finisher (BR3)

## Diet formulas

	<b>Starter BR1</b>	<b>Grower BR2-A</b>	<b>Grower BR2-B</b>	<b>Finisher BR3</b>
Age	Days 1 - 10	Days 11 - 21	Day 22 - 28	Day 29 - 32
<b>Components (%)</b>				
Wheat	41,42	49,80	51,37	57,12
Maize	15,00	13,00	13,00	10,00
Soybean extr. groats	31,50	30,40	28,55	24,80
Soybean extr.	4,00	-	-	
Fish meal	1,50	-	-	-
MCP – monocalciumphosphate	0,47	0,31	0,18	0,16
Calcium carbonate	1,47	1,16	1,15	1,13
Salt	0,28	0,24	0,23	0,26
Soybean oil	2,46	2,50	2,50	2,62
Animal fat	-	0,86	1,29	2,50
Sodium sulfate	0,13	0,10	0,11	0,08
Premixes of amino acid	0,85	0,86	0,86	0,86
Vitamin and mineral supplement	0,92	0,77	0,76	0,47
<b>Nutrient content</b>				
Crude protein (g/kg)	23,36	21,17	20,50	19,15
Fat (g/kg)	5,16	5,20	5,62	6,86
Lysine (g/kg)	1,30	1,17	1,13	1,05
Methionine (g/kg)	0,63	0,56	0,54	0,50
Ca (g/kg)	0,96	0,78	0,75	0,72
P (g/kg)	0,45	0,39	0,36	0,35
Vitamin A (IU/kg)	15000	10000	10000	10000
Vitamin D3 (IU/kg)	5000	5000	5000	5000
ME (MJ/kg)	12,40	12,70	12,90	13,40

### 2.6 Veterinary precautions

The chicken house was disinfected by xxxxx before the chick placement. On the first days old chickens was applied to the water solution of permanganate. On days 1 and 12 chickens were vaccinated with xxxxx.

### **3 Parameters recorded**

#### **3.1 Live weight**

Live weight was measured on days 1 (all the birds in each pen were weighed altogether), 7 and 14 (20 % of the birds were weighed altogether, without fasting). On day 28 birds were weighed individually and on day 32 birds were weighed individually, after 12 hours of fasting.

#### **3.2 Feed conversion ratio (FCR)**

Feed conversion ratio was calculated as feed consumption per 1 kg of live weight for the periods 1 – 14 days, 1 – 28 days and 1 – 32 days.

#### **3.3 Mortality**

All pens were checked three times a day to see if there were any dead or ill birds. Dead chickens were registered by date and reason of mortality on the day of death.

#### **3.4 Statistical analyses**

Performance results of live weight at the age of 32 days were statistically evaluated.

### **4 Results**

Tab. No.	1	Hatchability
	2a	Broiler results at the age of 7 days
	2b	Broiler results at the age of 14 days
	2c	Broiler results at the age of 28 days
	2d	Broiler results at the age of 32 days
	3	Mortality during growing period at the age of 32 days
	4	Statistical analysis
	5	Performance results per pen
	5a	Broiler results at the age of 7 days
	5b	Broiler results at the age of 14 days
	5c	Broiler results at the age of 28 days
	5d	Broiler results at the age of 32 days

**Hatchability****Tab. No. 1**

<b>Cross</b>	<b>Sample</b>	<b>Fertility</b>	<b>Hatchability</b>		<b>Birds housed</b>	<b>Average weight</b>	
			Set	Fert.		hatch. eggs	1-day
		%	%	%		g	g
xxxxxx	1	83,98	70,76	84,14	720	69,47	46,53
xxxxxx	2	84,04	73,89	87,52	720	69,77	47,61

**Broiler results at the age of 7 days****Tab. No. 2a**

Cross	Sample	Mortality		Live weight	
		Birds	%	Birds	g
XXXXX	1	17	2,36	703	186,11
XXXXX	2	18	2,50	702	186,11

**Broiler results at the age of 14 days****Tab. No. 2b**

Cross	Sample	Mortality		Live weight		FCR
		Birds	%	Birds	g	g
XXXXX	1	17	2,36	703	512,22	1138,79
XXXXX	2	20	2,78	700	514,17	1147,26

**Broiler results at the age of 28 days****Tab. No. 2c**

Cross	Sample	Mortality		Live weight		FCR
		Birds	%	Birds	g	g
XXXXX	1	22	3,06	698	1937,48	1151,45
XXXXX	2	24	3,33	696	1981,16	1146,58

**Broiler results at the age of 32 days**

**Tab. No. 2d**

Cross	Sample	Mortality		Live weight		FCR	IEV
		Birds	%	Birds	g	g	
xxxxx	1	45	6,25	675	2090,33	1671,62	390
xxxxx	2	30	4,17	690	2317,00	1488,53	497

**The fattening efficiency index (IEV)** means the level of fattening and is characterized mainly by its length, feed consumption per 1 kg live weight, achieved live weight and percentage of chicken deaths.

Calculation:

$$\text{IEV} = \frac{\% \text{ live} \times \text{average weight at slaughter (kg)}}{\text{fattening length (days)} \times \text{feed consumption (kg / bw)}} \times 100$$

**Mortality during the masts in 32 days**

**Tab. No. 3**

Cross	Sample	Mortality in the period						Mortality according causes														
		1 - 7	8 - 14	15 - 28	29 - 32	1 - 32		1	2	3	4	5	6	7	8	9	10	11	12	13	14	
		birds	birds	birds	birds	birds	%															
xxxxxx	1	17	0	5	23	45	6,25								20			1	10		6	8
xxxxxx	2	18	2	4	6	30	4,17												10		5	15

- Causes:
- |                         |                                    |                               |
|-------------------------|------------------------------------|-------------------------------|
| 1 – Viral diseases      | 6 – Wounds                         | 11 – Sudden death syndrome    |
| 2 – Bacterial diseases  | 7 – Digestive track diseases       | 12 – Cannibalism              |
| 3 – Moulds diseases     | 8 – Respiratory tract diseases     | 13 – Yolk sac. infam.         |
| 4 – Parasitary diseases | 9 – Reproduction tract diseases    | 14 – Culling and other causes |
| 5 – Tumors              | 10 – Locomotion apparatus diseases |                               |



**Statistical analysis - Cocks on the age of 32 days**

**Tab. No. 4**

<b>Cross</b>	<b>Sample</b>	<b>Sample size</b>	<b>Average</b>	<b>Standard deviation</b>	<b>Coefficient of variation</b>
			<b>g/birds</b>	<b>g/birds</b>	<b>%</b>
xxxxx	1	675	2090,33	276,54	13,23
xxxxx	2	690	2317,00	280,78	12,12

**Broiler results at the age of 7 days**

**Tab. No. 5a**

Cross	Sample	Box	Mortality		Live weight	
			birds	%	birds	g
xxxxx	1	2	4	3,33	116	193,33
		4	1	0,83	119	185,00
		6	3	2,50	117	173,33
		31	1	0,83	119	193,33
		33	4	3,33	116	185,00
		35	4	3,33	116	186,67
xxxxx	2	1	1	0,83	119	181,67
		3	4	3,33	116	180,00
		5	4	3,33	116	181,67
		32	3	2,50	117	191,67
		34	3	2,50	117	190,00
		36	3	2,50	117	191,67

**Broiler results at the age of 14 days**

**Tab. No. 5b**

Cross	Sample	Box	Mortality		Live weight		FCR
			birds	%	birds	g	g
xxxxx	1	2	4	3,33	116	525,00	1118,29
		4	1	0,83	119	511,67	1129,39
		6	3	2,50	117	491,67	1155,27
		31	1	0,83	119	523,33	1103,67
		33	4	3,33	116	515,00	1164,58
		35	4	3,33	116	506,67	1164,36
xxxxx	2	1	2	1,67	118	515,00	1166,25
		3	4	3,33	116	520,00	1092,18
		5	4	3,33	116	515,00	1180,20
		32	4	3,33	116	526,67	1129,69
		34	3	2,50	117	498,33	1150,11
		36	3	2,50	117	510,00	1166,17

**Broiler results at the age of 28 days**

**Tab. No. 5c**

Cross	Sample	Box	Mortality		Live weight		FCR
			birds	%	birds	g	g
xxxxx	1	2	6	5,00	114	2080,53	1109,45
		4	3	2,50	117	2044,44	1060,01
		6	4	3,33	116	2003,10	1095,56
		31	1	0,83	119	1824,45	1212,87
		33	4	3,33	116	1817,84	1236,11
		35	4	3,33	116	1858,97	1216,46
xxxxx	2	1	4	3,33	116	2045,86	1123,71
		3	4	3,33	116	2081,90	1089,78
		5	4	3,33	116	2177,76	1064,18
		32	4	3,33	116	1951,90	1184,10
		34	4	3,33	116	1730,60	1259,27
		36	4	3,33	116	1898,97	1186,50

**Broiler results at the age of 32 days**

**Tab. No. 5d**

Cross	Sample	Box	Mortality		Live weight		FCR	IEV
			birds	%	birds	g	g	
xxxxx	1	2	15	12,50	105	2106,67	1680,97	365
		4	7	5,83	113	1962,65	1764,47	349
		6	7	5,83	113	2013,19	1740,13	363
		31	6	5,00	114	2169,04	1595,98	430
		33	5	4,17	115	2116,17	1653,99	408
		35	5	4,17	115	2172,78	1607,73	431
xxxxx	2	1	5	4,17	115	2267,83	1537,75	471
		3	5	4,17	115	2297,57	1502,36	489
		5	8	6,67	112	2293,48	1548,17	460
		32	4	3,33	116	2430,09	1457,43	536
		34	4	3,33	116	2299,48	1432,81	519
		36	4	3,33	116	2312,16	1456,18	512